PESTICIDE NOTES

A PUBLICATION OF THE WASHINGTON STATE DEPARTMENT OF AGRICULTURE PESTICIDE MANAGEMENT DIVISION

JULY 2004
Vol.13 | No.1

Protecting our children from pesticides

*by **Dr. Richard Fenske**, Director*
Pacific Northwest Agricultural Safety and Health Center, University of Washington

Insecticides, fungicides, and herbicides are staples of modern agricultural production in the United States. Over the past three decades, substantial efforts have been made to protect farmers and farm workers from the hazards posed by overexposure to pesticides. Toxicity testing, strict labeling procedures, certification and training, improved application equipment, and personal protective gear make up an elaborate program of risk management designed to minimize hazards. As the rules governing occupational pesticide exposures were strengthened, it was generally assumed that, so long as chemicals were handled and stored properly, children would not be placed in harm's way.

In the past decade, however, new insights into the more subtle means of toxicity, along with the unique vulnerability of children to environmental pollutants, have led health researchers to focus on this group. An important wake-up call came in a presidential executive order that directed all federal agencies to develop an explicit strategy for the inclusion of children's health in their evaluations. Passage of the Food Quality Protection Act of 1996 put the spotlight directly on pesticide health risks and children. Approved by a unanimous vote of Congress, the law requires the Environmental Protection Agency to review the toxicity of every pesticide, and to determine both the acute and chronic health risks these chemicals pose to children.

This increased scrutiny has led to new questions about children, especially toddlers, who are magnets to chemicals in our environment. Studies have shown that even small amounts of toxic chemicals, such as lead, can have a great effect on young children. Research points out that this age group is the most susceptible to take-home exposure. Toddlers spend a lot of time on floors and often wear little clothing during the summer

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"It appears from (our research) results that agricultural spraying can have a community-wide effect on children's pesticide exposures."

■

***Dr. Richard Fenske**, University of Washington*

Learn from mishaps and protect your eyes

*by **Barbara Morrissey**, Department of Health, Pesticide Program*

Each year the Washington Department of Health follows up on about 300 cases of suspected pesticide related illness and injury. Very few cases involve severe medical symptoms but many involve medical evaluation and treatment at an ER or walk-in clinic. Most of the reported cases are preventable by following the pesticide label and wearing protective gear to prevent exposure whenever handling pesticides.

Among licensed pesticide applicators, eye irritation and injury is one of the leading symptoms reported. No one expects to be splashed in the eye with a pesticide. It happens fast and can surprise you with how much it hurts. Even pesticides with a "Caution" label can harm your eyes if a splash occurs. It could be the active ingredient, or surfactants and solvents in the product that cause injury. Dusts and granules can also physically scratch the cornea. Pesticides can be absorbed into the blood stream through the eye. Splashes of highly toxic pesticides into eyes can lead to systemic symptoms. Eye safety glasses or goggles should always be worn when opening containers, mixing, applying, and during clean-up.

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Symptoms after pesticide exposure most commonly reported:

- eye irritation and injury
- coughing and trouble breathing
- nausea or dizziness
- skin irritation or rash

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Learning from mishaps – protect your eyes...

THE ACCIDENT

It was a warm day in July and a licensed applicator was spraying a city right-of-way with a tank mix of Crossbow, Round-up, R-11, and blue dye. He heard a hissing sound coming from the back of the truck and went to investigate. As he came around the back of the truck he saw spray coming from the pressurized hose. Just then the hose burst and herbicides sprayed his clothing and his face. He shut off the sprayer and began cleaning up. He used a washcloth and clean water from his 400 gallon tank to wash off his face and tongue and he changed out of his wet clothing. Shortly after he showered. If he had been wearing safety goggles he could have avoided his only symptom and a trip to the doctor's for eye irritation.

LESSONS LEARNED: *Accidents like this can happen without warning. You can be prepared by wearing good eye and skin protection, carrying a change of clothing in your truck, and keeping an eye wash bottle handy.*

Safety goggles protect your eyes. As we go into the peak of pesticide application season – remember to wear your eye protection!

For more information about pesicide illness monitoring at the Department of Health, contact us at (360) 236-3360 or toll-free at 1-888-586-9427. Spanish speakers can contact us at (509) 576-3064 or (509) 575-2056.

FOGGED UP SAFETY GOGGLES

A licensed technician was spraying the eaves around a home for spiders. He was using Talstar: a pyrethroid insecticide. His goggles were fogging up so he removed them to see better. The wind came up and blew insecticide into his face a couple of times while he finished the job. Soon both of his eyes were burning. He rinsed with visine and water several times during the day. That evening at home his eyes were still painful. The next morning his eyelids were swollen and crusted shut, the whites of his eyes looked red, and the pain was decreasing. His employer instructed him to go to the doctor. He was diagnosed with chemical burns to both eyes and instructed to rest with cool compresses for two days. Several days later his eyes had recovered.

LESSONS LEARNED: *If your goggles fog up, don't take them off. There are safer ways to solve the problem. At the jobsite, you can try using an antifog wipe on the goggle lenses or wearing a face shield, assuming it is consistent with the label. If the problem is persistent, try switching to a different type of goggle with antifog design.*

A LABEL DISREGARDED

A licensed agricultural applicator was mixing Golden-Dew, a sulfur-based fungicide. He was wearing a rubber suit, rubber gloves, and a respirator but no eye protection. It had not been provided by his foreman. While he was weighing the concentrate, the fine power drifted up into his face and his eyes began to water and hurt. His foreman gave him visine to use but that evening his eyes swelled shut. Fours days later he was seen by a doctor for continuing pain and redness in his right eye. He was given a full eye examination and diagnosed with chemical conjunctivitis. He recovered over the next few days with treatment. The label for this product has the signal word "Caution" and states that the product causes moderate eye irritation. The label requires eye protection for handlers. In this case the label was not followed and the employer was contacted and the problem corrected.

LESSONS LEARNED: *Always follow the label! The pesticide label contains important instructions for protecting against harmful effects of pesticides. If you are handling pesticides and you are not being provided with the necessary protective gear, bring this to your employer's attention. Employers must provide safety glasses or goggles if eye protection is required on the label. If PPE is denied, you can contact Labor and Industries at* ***1-800-423-7233*** *(English and Spanish) for enforcement of the pesticide label.*

WSDA PESTICIDE**NOTES** is published by the Washington State Department of Agriculture Pesticide Management Division to keep pesticide users and others informed about changes in pesticide laws, issues and decisions that affect them. Your feedback and ideas are welcomed and encouraged. Write to us at:

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FREQUENTLY ASKED QUESTIONS

Ag employers must step up to new rule for cholinesterase monitering

Starting in 2004, agricultural workers who handle Category I (Danger/Poison) and Category II (Warning) organophosphate and N-methyl carbamate pesticides for 50 or more hours in a consecutive 30-day period must be offered medical monitoring.

Medical monitoring includes a visit with a medical provider and routine blood tests that measure cholinesterase activity levels in the body. Cholinesterase is an enzyme that is critical to the proper function of the nervous system. Continued *overexposure* to organophosphate or N-methyl-carbamate pesticides lower the levels of cholinesterase in the blood, and may result in pesticide poisoning. The new rule also requires that if a worker's red blood cell or plasma cholinesterase levels become significantly depressed as compared to the baseline (pre-exposure) blood test, the employer must conduct an evaluation of the worker's pesticide handling practices. In a case of severe cholinesterase depression, the worker must be temporarily removed from exposure to these pesticides until his/her enzyme levels return to within baseline levels.

The state Department of Labor and Industries' **cholinesterase monitoring rule** applies to all agricultural operations that produce plants on farms, nurseries, greenhouses, and forests, and that use Category I and Category II organophosphate and N-methyl carbamate pesticides. The state Department of Labor and Industries provides more detailed information on the rule at its web page. To learn more visit, **www.lni.wa.gov/Safety/Topics/AtoZ/Cholinesterase/default.asp** and **www.lni.wa.gov/wisha/rules/agriculture/HTML/part-a.htm#WAC296-307-006**.

The following is a sample of questions and answers that appear on the Labor and Industries web site.

Q: What is cholinesterase?

A: The enzyme, cholinesterase (acetylcholinesterase), removes the neurotransmitter acetylcholine from the gaps between nerve cells. It acts as the nervous system's "off *switch*." Adequate levels are essential to the normal function of the nervous system.

Q: How do organophosphate and N-methyl carbamate pesticides affect a person's cholinesterase levels?

A: Active ingredients in *organophosphate* and *N-methyl carbonate* pesticides bind with cholinesterase and prevent it from removing *acetylcholine*. Accumulation of acetylcholine results in nervous system over stimulation. What makes these pesticides effective against pests also makes them poisonous to humans.

Q: What are the symptoms of depressed cholinesterase in the blood?

A: The common symptoms may include pinpoint pupils, nausea, dizziness, headache, stomach pain, anxiety, muscle twitch; weakness, shortness of breath, and diarrhea. Large exposures may result in convulsions, coma and even death.

Q: What other things affect cholinesterase levels?

A: Chronic liver and blood diseases as well as certain medications may decrease this critical enzyme in the body.

Q: Which pesticides cause symptoms and are covered by the monitoring rule?

A: To learn more about the varied chemicals that cause symptoms and which ones are covered by the rule, visit **agr.wa.gov/PestFert/Pesticides/WorkerProtection.htm**.

Q: Is *Sevin XLR*, labeled with the signal word "Caution," among the pesticides covered by the rule?

A: No, the rule applies to only Category I (signal word: "Danger") and Category II (signal word: "Warning") N-methyl-carbamate and organophosphate pesticides.

Q: Where do I send workers for testing?

A: First, choose a medical provider who is familiar with the rule. It maybe possible to use the provider who does your respirator evaluations. Generally, blood testing and the initial consultation will take place at your provider's office. But if prior arrangements are made, some providers may be willing to do check-ups and testing on-site. It's worth asking a local provider how, or if, he or she might accommodate you and your workers. Find out the cost and minimum number of workers needed for an on-site evaluation.

Q: May an employee decline both the medical evaluation and the blood test?

A: No, employees must participate in the initial medical evaluation to ensure that each one has made an informed decision. An employee does have the right to decline the blood test after that initial evaluation and the right to change his or her mind later and participate in testing.

Q: What is the purpose of a baseline test?

A: Everyone has a different "average" cholinesterase level. By comparing a baseline test (measured when employee has no rule-related pesticide exposure) and a periodic test (when employee is handling pesticides), the later test will show if handling activities are decreasing ('depressing') the individual's cholinesterase level.

Q: Must the owner of a spray operation have a medical evaluation before opting out of blood testing?

A: No, the monitoring rule only applies to employees. Employees, not employers, must see a doctor before opting out of testing. Note: Employers who cover themselves under the state industrial insurance program are also subject to occupational safety and health regulation.

Q: Where do I call for additional information about cholinesterase monitoring?

A: Call **1-800-423-7233** (4-BE-SAFE).

Protecting our children from pesticides

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spraying season. Children's typical hand-to-mouth behavior increases their chances of inadvertently eating pesticides, chemicals their young systems have greater difficulty clearing. Those under the age of three are most vulnerable to damage because their extra-sensitive nervous system is developing so rapidly.

Since 1991, the University of Washington has investigated pesticide exposures among Washington children of agricultural families, focusing on the organophosphorous insecticides. In 1996, the Pacific Northwest Agricultural Safety and Health Center was established with funding from the National Institute for Occupational Safety and Health (NIOSH). We have conducted considerable research into take-home pathways of pesticide exposure. Colleagues at Fred Hutchinson Cancer Research Center and the University of Washington Center for Child Environmental Health Risks Research have joined some of these studies.

"(Our) studies led us to conclude that a 'take-home' pathway for pesticide exposure does exist for children of agricultural producers and workers… (In another study) we found a strong association between home and vehicle dust for a number of pesticides, providing further support for the take home exposure pathway."

■

***Dr. Richard Fenske**,*
University of Washington

In our work, we're trying to find answers to what seem like simple questions. It's a challenge to arrive at definite answers in the face of scientific data that are not always definitive. Just how do workplace chemicals enter the home? Can washing work clothes with the family laundry transfer pesticide residues to children's clothing? When pesticides are sprayed, do the chemicals move off-target to residential areas?

We have also investigated new approaches to minimize children's exposure to pesticides.

Our early studies in central Washington state demonstrated that agricultural pesticides measured in house dust were elevated in the homes of agricultural workers compared to other homes in the same community. A follow-up study collected urine samples from preschool children and found that children of pesticide applicators had higher levels of pesticide metabolites than did children of non-agricultural workers. These studies led us to conclude that a take-home pathway for pesticide exposure does exist for children of agricultural producers and workers.

Our most recent study of this pathway sampled the dust in commuter vehicles of more than 150 farm workers, together with dust from their residences. We found a strong association between home and vehicle dust for a number of pesticides, providing further support for the take-home exposure pathway. Recent efforts have focused on an intervention to improve individual hygiene practices in these communities so as to reduce pesticide residue levels in the home.

In addition, our studies have found that children who live near pesticide-treated farmland may have higher exposures than children living farther away from spray activities. The most striking finding in this regard came from a study of 44 preschool children living in the tree fruit region of the state. We collected urine samples from these children over the course of a year and found that levels of pesticide metabolites in the urine increased during periods of active spraying and returned to previous levels when the spraying ended. It appears from these results that agricultural spraying can have a community-wide effect on children's pesticide exposures.

Recent findings, released by Fred Hutchinson Cancer Research Center researchers, indicate that one particular organophosphorus pesticide, *azinphos-methyl*, is found more frequently in the residences of orchard thinners than in the residences of other agricultural workers. Orchard thinners have long been recognized as an important work group in terms of pesticide exposure, since they have substantial physical contact with pesticide residues on foliage. We do not yet know if the pesticide levels found in these and other workers' residences represent a health risk to young children, but we hope to conduct further studies to begin to answer this critical question.

It's not only agricultural workers and their families who are exposed to toxic chemicals. NIOSH research showed that children of lead-exposed construction workers were six times more likely to have blood-lead levels over the recommended limit as compared to children whose parents did not work in lead-related industries.

We can learn from those industries that have taken specific measures to minimize risks, and workers themselves play an important role in protecting their families from take-home contamination by making some basic precautions part of their daily routine:

■ **Put on clean clothes**. At work, change into clean clothing and shoes before getting into the car and going home. Put dirty work clothes and shoes in a plastic bag or leave them at work.

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THE ENDANGERED SPECIES ACT, SALMONIDS AND PESTICIDE USE

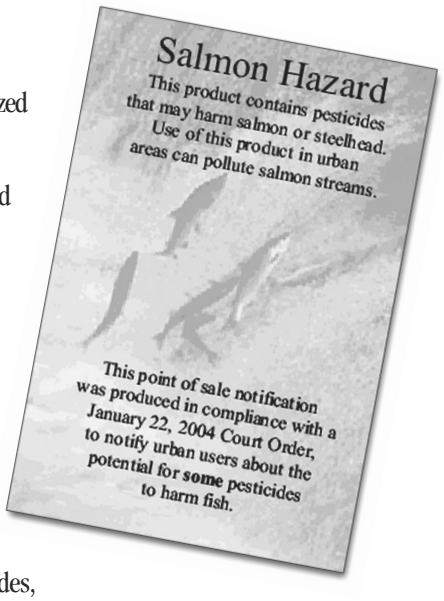
Court decision will impact pesticide applications

Earlier this year, United States Western District Court Judge John Coughenour issued the final ruling in the *Washington Toxics Coalition, et al., v. EPA* lawsuit. The lawsuit alleged that the Environmental Protection Agency (EPA) failed to consult with National Marine Fisheries Service as required under Section 7 of the Endangered Species Act (ESA).

The ruling mandates buffers zones of 20 yards for ground applications and 100-yard buffers for aerial applications for 35 of the 54 pesticides named in the lawsuit. The judge also ruled that educational materials are required at the point-of-sale to alert pesticide users in urban areas to the potential risks of using certain pesticides near salmonid habitat. The seven active ingredients that require the mandatory point of sale warning are 2,4-D, carbaryl, diazinon, diuron, malathion, triclopyr BEE and trifluralin. An "urban area" is defined as an urbanized area with a population of at least 50,000.

EPA, CropLife America, commodity organizations and pesticide manufacturers have appealed the ruling.

To assist pesticide applicators with identifying designated salmon habitat, WSDA has developed and posted maps and other resources on its web site. The department also publishes a bimonthly newsletter to inform interested parties on activities related to ESA and pesticide use. Visit **agr.wa.gov/PestFert/EnvResources/EndangSpecies.htm** for links to salmon habitat maps, tables of affected pesticides, newsletters, and all other pesticide-related ESA issues.



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- **Remove shoes**. If you wear work shoes home, take them off before entering the house.
- **Wash hands**. At least, wash your hands and face at the end of a work shift and before leaving work.
- **Shower quickly**. Take a shower and wash your hair before leaving work if possible or as soon as you get home.
- **Launder properly**. Wash work clothes separately from all other clothes. Empty work clothes from the plastic bag directly into the washing machine and wash immediately. Run the empty washing machine again to rinse out contaminants.
- **Dust at home**. Keep your home clean and dust-free.

Growers also have a major role to play in limiting take-home exposure. They can provide employees with the time and facilities to change clothes and wash, as is required in high exposure lead jobs. In addition, growers can support conscientious employees who are taking precautions and encourage lax workers to begin doing so. It is through this kind of active cooperation between workers and producers that we can both secure the benefits of pesticide use *and* minimize the risks associated with these chemicals. By doing so, we have everything to gain, importantly the continued good health of our most vulnerable population: children.

Trivia

Question:

Since aquatic pesticides are state restricted use products can an unlicensed applicator legally purchase and apply them on a labeled, non-aquatic site? (Note: Assume the product is not otherwise restricted use.)

Answer:

Yes. If the label has both aquatic restricted uses and non-aquatic general uses, a non-certified person may buy and use the product on terrestrial sites. On the sales invoice, the dealer must indicate that the purchaser agrees not to apply the product to water.

Reference: See WAC 16-228-1231(5) of the General Pesticide Rules, available at: **agr.wa.gov/PestFert/Pesticides/LawsRules.htm**

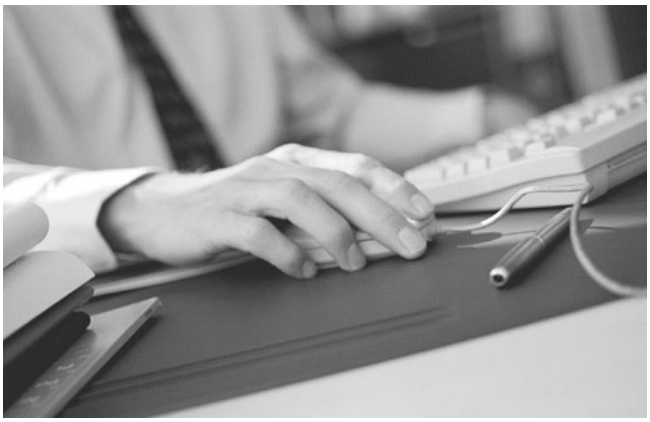
FOR THE RECORD

How to be a smart manager

*by **Matt West**, Compliance Officer*

Growing up on a sugar beet, potato, and malt barley farm in southern Idaho, I quickly learned that being a smart manager went hand-in-hand with keeping detailed and accurate records of all pesticide applications.

Many of the chemicals we used on the farm had stringent plant back restrictions. To have an effective crop rotation plan we had to frequently refer back to our application records and determine if a given crop could be planted. The importance of this practice hit home when we purchased a farm that did not come with records of past pesticide application. Shortly into the growing season on this farm, we discovered that the timeline to plant a sensitive crop had not been met. This particular experience taught me to become a better manager by maintaining detailed pesticide application records.



For the record, be a savvy manager: maintain detailed and accurate pesticide application documents. The benefits go far beyond simple compliance with state law.

Good records can and do assist a grower in making time and money-saving decisions. Application records also prove beneficial in assisting medical personnel if and when someone is exposed to a pesticide. Records also serve to reassure consumers that their food supply is safe. And, most importantly perhaps, if an applicator is accused of pesticide misuse, records become his or her best defense. Unfortunately, most individuals fail to keep detailed-enough records to defend themselves appropriately.

Dennis Gardisser, Extension Agriculture Engineer at the University of Arkansas, has been called to testify in a number of spray-drift court cases and in a recent article (**www.agriculture.com/spraying/articles/insider3.html**), he offers the following suggestions:

Good records are important, and I tell applicators that those records should be able to tell the whole story without the operator being there. They need to record what was done, where they started, what the conditions were, if they changed, when they changed, exactly how fast they drove, how high the nozzles were, what pressure they used – everything. Particularly important is the start and end time of the application. A lot of times they know what day they made the application, and they may know if they made it in the morning or afternoon. But when they started, what side of the field they started on, and what the weather was like when they started could be important later on. One thing that is really important with records is to measure the wind speed as close as possible to the application site; the direction needs to be recorded with some type of compass to the nearest degree you can read it. If you simply put down 'north,' that boils down in a court of law to mean anything that's not 'south.' You don't want to try to defend a 180° arc in court...

When recording weather information, WSDA requires that weather conditions include the direction from which the wind is blowing and the velocity. Statements that read "calm," "breezy," "slight wind," or "no wind" are not acceptable. If the wind varies in direction and velocity during the application, make certain to indicate the range of variance (for example, S-SW 3-7 mph).

On official records, temperature must also be indicated in degrees Fahrenheit and listed as the range encountered during an application. Take these readings as close to the application site as possible; conditions at the site may vary drastically from those reported by the nearest weather station. Accurate and consistent readings taken at the application site may protect you from a complaint.

WSDA requires that the application date and start and stop times be noted on the application records. To improve applicator compliance, all WSDA record-keeping forms were recently revised to encourage the notion of

1) start and stop times
2) weather conditions, and
3) acerage or other treated areas

As an inspector and previous farmer, I have experienced and witnessed large amounts of crop damage that resulted in substantial economic losses. Often the damages and financial losses could not be explained due to poor or inadequate record keeping. So, *for the record*, be a savvy manager: maintain detailed and accurate pesticide application documents. The benefits go far beyond simple compliance with state law.

SELDOM-USED ENFORCEMENT TOOL GETS THE JOB DONE

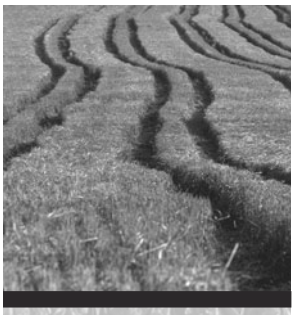
Courts hold unlicensed applicators accountable

The court injunction is not a new enforcement tool, but an option rarely used by the state Department of Agriculture. In the past year, the Pesticide Management Division has had to play the 'injunction' card twice, but only after exhausting its administrative penalty process.

In 2002, pesticide applicators in Pierce and Grant counties received fines from WSDA. However, both individuals refused to pay the fines for operating without a license. They simply ignored the department's efforts to bring them into compliance. In both cases, WSDA sought and obtained court injunctions against the pesticide applicators. Pierce County Superior Court granted a preliminary injunction against Phillip V. Williams, dba Premier Pest Control and Premium Pest Control. The Jan. 24, 2003 court order prohibits Williams from engaging in "any structural pest inspection or pesticide application business unless he first properly obtains the appropriate license from the State of Washington."

Later in the year, a Grant County Superior Court judge issued a preliminary injunction against Phil M. Pearson, dba Pearson Aircraft, an aerial applicator working out of the Wilson Creek area. The court order of Dec. 5, 2003, prevents Pearson from "acting as a Commercial Pesticide Applicator by applying pesticides to the land of another."

Serious consequences can and do result when a defendant violates superior court orders. Offenders can be found in "contempt of court" and subject to sanctions that can include fines, imprisonment, or both. In the case of Phillip Williams, who failed to appear on his appointed court date, the court granted the injunction and imposed requirements to allow for the closure of his operation. The unlicensed applicator violated the court order, and that prompted another summons to court. Williams failed to appear, and, this time, the judge issued a bench warrant for his arrest. The Pierce County man eventually was stopped for a traffic violation, arrested on the warrant and sent to jail. Subsequently, he was found in contempt of court and ordered to pay restitution to WSDA. Any future violations by Williams will likely prompt more severe, court-ordered sanctions.



Phosphide fumigant labels now require management plan

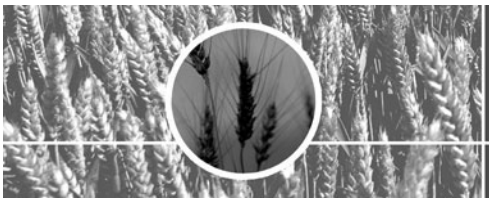
New labels on aluminum and magnesium phosphide fumigants require applicators to develop a comprehensive management plan for each fumigated site. The plans are in response to the dangers associated with the application of phosphide fumigants and are meant to protect the applicator, other employees, the community and the environment.

The requirements of the Fumigation Management Plans are detailed in the applicator's manual referenced on the new labels. Applicators should look for this labeling requirement on 2004 product purchases and be proactive about developing their plans.

The new labels also require that a certified applicator be physically present, responsible for, and maintain visual and/or voice contact with all fumigation workers during the application and when the structure is opened for aeration. Failure to comply with any of the revised labeling requirements is a violation of pesticide law. Such a violation can result in license suspension or revocation and/or a civil penalty of up to $7,500 per incident.

An online resource through the Nebraska State Department of Agriculture offers guidance for developing a plan and a sample template and checklist (see **www.agr.state.ne.us/division/bpi/pes/fmp.htm**). Applicators might also find useful information about the label changes on the product manufacturer's web site.

In the application of fumigants: be safe, be legal, and be a planner. If you have further questions regarding compliance with these new label requirements, contact WSDA toll-free, 1-877-301-4555.



WSDA CaseFiles

LEARNING from real-life pesticide investigations

Think twice about following 'off-label' recommendations

Tell us what you think of CaseFiles

For the third consecutive year, PESTICIDE**NOTES** brings its readers **CaseFiles**, a feature that tells the story of a true pesticide investigation. In each piece, Joel Kangiser has reviewed an actual WSDA investigation; he assigns fictitious names to the people associated with the now-closed cases. The goal in retelling these stories is to provide consultants, licensed applicators, manufacturers, and growers with knowledge of the various types of investigations, how we conduct an investigation, and the ultimate outcomes.

Share your thoughts. Is **CaseFiles** an interesting and beneficial addition to the newsletter? If so, we plan to continue it in future editions. If not, the space will open up to other topics. The decision is in your hands.

Please email all comments to Margaret Tucker at mtucker@agr.wa.gov or call (360) 902-2015.

Third generation farmer, Bobby White, could not recall a single missed harvest in his 30 years of living on the farm. His parents owned the farm that he now took pride in running. Among other duties, White took charge of weed spraying and applying other pesticides. Recently, he obtained a private applicator license from the Washington State Department of Agriculture – in case the need for restricted use pesticides arose.

White managed and gained control of most weed conditions on the farm. But since 1998 the grassy weeds in the Timothy hay, especially Windgrass, posed a growing problem.

By the 2000 season, White grew concerned about the encroaching grass-weed. The weed had started to limit the production and quality of Timothy hay. White consulted with John Rogers, a field representative from the local Coop and licensed pest control consultant. Rogers recommended a pre-emergent herbicide to keep both unwanted seed from germinating and provide some residual control of the grass. Unable to make a pesticide application in 2000, White went back to Rogers the following spring.

This time Rogers recommended a different strategy, advising the use of a post-emergence herbicide. The pesticide *Puma*, registered to control grassy weeds in wheat and barley, is not labeled for Timothy. Still, growers who applied the product to (non-label) perennial grass crops got good results, Rogers explained. White was skeptical. What if this product damaged the Timothy hay? And is it appropriate to follow an off-label recommendation?

The problem with going 'off-label'

"We go off-label all the time to help farmers out," Rogers said.

Rogers told White that the label issue was usually a 'money thing' with chemical companies. It's expensive to test a crop and put it 'on label,' Rogers explained. And the chemical companies don't test for a lot of the smaller crops like Timothy, he said. With assurances from both Rogers and the manufacturer's representative, White made the application.

Several days after the application White started to notice discoloration in the Timothy. Rogers assured him that his crop would stabilize and be fine. Two weeks later, with no sign of the Timothy pulling out of it, White convinced Rogers to take a look for himself. Together they discovered damage at the base of the discolored Timothy – damage typical of Puma's effect on targeted grassy weeds. More time passed and the telltale streaks showing where the sprayer had missed its mark became more pronounced. With the Timothy not set back in those streaks it was quite clear that the Puma had caused the damage.

With firm knowledge that the off-label pesticide caused serious crop damage, White demanded that Rogers compensate him for the lost yield in Timothy. He stood to lose as much a 50 percent of his production. Rogers calmly pointed out that since the application was *off-label*, White now was "on his own." In the coming weeks, the Coop's insurer denied White's claim and its board of directors denied all responsibility.

As a last resort, White contacted WSDA. He told investigator Bill Johnson that a consultant had wrongly recommended Puma's use on Timothy. But Johnson learned from the consultant (Rogers) that White knew Puma to be an off-label product, and understood that crop damage might occur. Rogers also told the investigator that the manufacturer was consulted and White acted on a representative's assurances that pesticide damage to Timothy was probably unlikely.

Paper trail leads to answers

During the investigation, WSDA's Johnson did not just rely on interviews. He obtained several documents that showed evidence of wrongdoing:

- Coop *Field Survey & Recommendations* form written to Bob White recommends the use of Puma at 2/3 pints per acre. Someone blackened the name of the *crop,* but the word "Timothy" was still legible. The name of the field matched the field where White's Timothy grew.
- Second, an invoice from the Coop shows White purchased five gallons of Puma.
- Third, a Coop invoice indicates White's rental of spray equipment. Date matches date of the Puma sale.

continued on page 9

Monitoring automated systems and commercial licensing

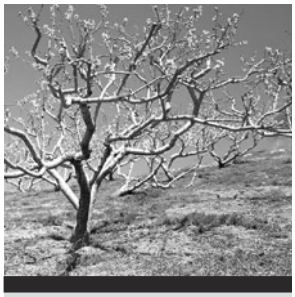
With automation permeating every aspect of our lives, specialized injection and spray systems now thrive in the world of pest control. Automation is widespread in commodity and food storage, lumber treatment facilities, and is picking up steam in the fight against mosquitoes and West Nile virus. You can find automated aerosol dispensers in dairies and restaurants.

As the methods of pest control have changed so, too, have the players. Pest control that used to be performed "in house" now occurs under a separate contract for the installation and maintenance of automated systems. These contractors often do not view themselves as commercial pesticide applicators. But, in the eyes of the law, they clearly fit into this category.

These new consultants are not much different than pesticide dealers who provide growers with varying degrees of assistance with chemigation applications. Importantly, it's the level of assistance that determines whether or not the contractor must be licensed as a Commercial Applicator. (For more on this, review the 2003 edition of PESTICIDENOTES and see the story – **Dealers:** Know when Commercial Applicator license is a must.)

As with chemigation applications, WSDA does not require commercial applicator licensing for the initial set-up and calibration of an automated pesticide application system. However, if a contractor offers assistance beyond the initial set up – turning equipment on or off, follow-up calibration, equipment adjustment, or handling pesticide beyond a delivery – a Commercial Applicator license is required. In such instances, the contractor must take full responsibility for every application. This includes the licensing of all automated equipment, keeping application records, and ensuring that all employees are properly licensed.

The only way to avoid commercial applicator licensing is to set up the equipment for a client, train the person to run and maintain the equipment, then step out of the way. Under this arrangement, it's the client's responsibility to manage oversight of the system. Note: A Commercial Consultant license, or equivalent, is required to provide recommendations on product use.



If you need help in determining licensing requirements for automated application systems, contact Pesticide Licensing toll-free, 1-877-301-4555.

Leaf indexing tools available to growers

WSDA and the WSU Food and Environmental Quality Lab have provided grape growers with the educational tools necessary to date herbicide exposure in vineyards. To read up on procedures and download forms, visit **www.feql.wsu.edu** or contact your regional WSDA-Pesticide Management Division office.

Case Files... *continued from page 8*

- Fourth, a Coop invoice written at a later date credits White for five gallons of Puma. Handwritten note on the invoice reads: "Registrant to credit Coop."

White also confided to Johnson that Coop staff even helped him calibrate the sprayer for the Puma application.

WRAPPING UP the investigation

The facts of the *Puma Case* are clear:

1) Rogers told White what product would work to control Windgrass growing in his Timothy;
2) the consultant told White what rate to use and how to apply the product;
3) the Coop rented the sprayer to White, and helped him calibrate it; and finally
4) Rogers sold White the Puma, and when it injured the Timothy the Coop refunded the cost of the product.

Clearly, Rogers had warned White of the off-label use. But after warning White, he also went on to recommend Puma for use on the Timothy. Despite the warning, Rogers is culpable. A consultant cannot make a recommendation, and later dissociate himself by claiming he "did not recommend the product." The department charged Rogers with making a recommendation inconsistent with the labeling, and for aiding or abetting. Rogers paid a $450 fine and his consultant's license was suspended for seven days.

As for White, he may have been misled. Growers depend heavily on the advice of consultants. However, the person applying a product, ultimately, is responsible for following label requirements. In this case White knew – or, as a Private Applicator, should have known – that an off-label use is a violation of state pesticide law. White paid a $450 fine and his private applicator license was suspended for seven days.

Growers, consultants and dealers should consider the serious repercussions of going off-label for any crop. Individuals not only risk the possibility of a WSDA fine and license suspension, but a significant loss in crop production.

Feds introduce new chemical security rules

Pesticide Management staff suggest the following fertilizer and pesticide security measures:

- Lock your storage sheds, tank valves, trucks, and outside holding areas/cabinets.
- Deliver product to secured locations (Applies to dealers).
- Ensure that leftover product is not sitting in the field once a job is complete.
- Park transportation vehicles with product in secure and/or well-lighted areas.

For additional information on federal transportation regulations, contact the Hazardous Materials Information Center at 1-800-HMR-4922.

Since September 11, 2001, government and private industry interpretations of personal and homeland *security* have expanded greatly and continues to grow. In the two years since the horrific terrorist acts that caused the destruction of New York's World Trade Center and thousands of deaths, the United States Department of Transportation (USDOT) has increased its vigilance over the storage and shipment of hazardous materials.

In the past year, the federal government has enacted expanded new regulations to prevent chemicals from ending up in the hands of potential terrorists. Since agricultural fertilizers have been used in the production of bombs, all agricultural chemicals are of immense concern to the federal and state governments. New rules, in turn, have required dealers, wholesalers, and growers who store and transport chemicals to change their daily routine.

The new federal DOT regulations that just now are catching up with WSDA rules – tighten up oversight on supply, delivery and storage of hazardous agricultural products. But for dealers, growers and others in Washington state, the new rules should not be a surprise. WSDA rules related to the supply, delivery and storage of pesticides have been on the books for 30 years.

Both the new federal regulations and the longtime state rules require that pesticides and other hazardous materials be properly secured during transit. The hauler must have the proper shipping papers and correct product labels. If a dealer is hauling pesticides to the field or a grower's shop, the delivery slip must be signed by the grower or authorized agent, or the product must be placed into secure storage. Dealers in Washington are required to verify that pesticide licenses are current for the year. And, since November 2003, dealers must also request photo identification of new customers who purchase restricted use pesticides. The WSDA rules apply to dealers and growers alike. WSDA regulations for distribution, transportation and storage can be found in the Washington Administrative Code (WAC) 16-228 Sections 1200 and 1220.

How security rules evolved

In October 1998, the United States Department of Transportation took on the role of regulating *intrastate* transportation of agricultural hazardous materials. Before that time, the USDOT only had authority over *interstate* transportation.

Starting in late 1998, federal regulations required Washington growers to package, label, and placard a load, if a load were more than 16,094 pounds of *ammonium nitrate*, or more than 502 gallons or 5070 pounds of any other hazard (*i.e. aqua ammonia*). *Ammonia (NH3)* did not have an exemption amount; all loads of this chemical were regulated regardless of load size. In addition, growers needed proper shipping papers, an emergency response plan and employee hazardous material training. The growers were still exempted from having a Commercial Drivers License (CDL).

The expanded rules, as of September 2003, cover anyone who transports or offers for transportation, a quantity of hazardous material that requires placarding. (See USDOT Table 1 hazard for chemical products such as Phostoxin, or USDOT Table 2 for 1001pounds of a hazard, such as aqua ammonia). If covered by these changes, you are required to have a security plan, run a Security Vulnerability Assessment, and have conducted training of your employees as of March 25, 2004.

INSIDE THE WSDA CHEMICAL AND HOP LAB

Pesticide testing is complex

*by **Royal Schoen**, WSDA Chemistry Program manager*

To ensure the overall quality of pesticide testing, the WSDA Chemical and Hop Laboratory in Yakima uses a strict chain-of-custody procedure from the moment a sample arrives until it is disposed. A sealed sample often is hand-delivered by the investigator or a delivery service, such as Airborne Express, UPS or Federal Express. At this point, a lab scientist stores the sample under extreme cold to avoid degradation. Before a sample is subjected to a battery of tests, the technician creates several sub-samples of 50 to 100 grams each from the original one- to two-pound sample.

Typically, testing begins with the application of liquid and solid chemicals that isolate the pesticide or group of pesticides from the rest of the sample material be it soil, water, plant or article of clothing. Isolation of pesticide(s) is called **extraction** and **clean-up**. Following chemical isolation of the pesticide, chemists take several steps to confirm its identity using complex instruments. Completing the testing process often takes between a couple of days to more than a week, and sometimes longer.

Gas and Liquid Chromatographs are a scientist's primary testing tools. These instruments are equipped with complex detection systems that provide the scientist with two- and three-dimensional pictures of the chemical. And, it's these images that allow the chemist to make a positive identification of the pesticide. Finally, the total amount of pesticide present is calculated after a chemical verification test is done. The lab reports the presence of a pesticide in parts per million (ppm), parts per billion (ppb), or micrograms. Each test has an associated lower limit of reporting or detection limit. If no pesticide is found at or below the limit of detection, then a value of **ND** (none detected) is reported as the result.

In any given year, the WSDA lab performs a variety of routine tests for about 100 commonly applied pesticides. In addition, the lab is capable of testing for about 200 less-commonly-applied pesticides. In the testing of a new or unusual compound, chemists work with pesticide companies to obtain the right testing protocols for their registered product. In a year's time, the laboratory analyzes between 500 to 750 samples related to pesticide investigations.

Currently, the laboratory with a staff of fifteen chemists and technicians is working toward accreditation by the International Organization for Standardization (ISO 17025 standard). The ISO evaluates testing and calibration laboratories to ensure that strict procedural and quality control standards are followed. In the United States, external audits of such labs take place by the American Association for Laboratory Accreditation, an organization dedicated to the formal recognition of competent laboratories. As a result, most small labs choose not to invest the time or expense in attaining accreditation from the ISO.

Ag lab scientists resemble TV's CSI investigators – sort of

Weekday evenings, many of you tune into or are hooked on the notably popular CSI shows. The TV crime investigators show up at the scene, take samples of unknown substances and human tissue, and rush the specimens back to the lab. Then, using highly sophisticated equipment, the CSI lab scientists provide nearly instantaneous answers and solve the crime as only TV dramas can do.

Well, chemistry is not typically as mysterious, glamorous or instantaneous as portrayed on TV or in the movies. In reality, solving a puzzle in the world of chemistry is complex, slow and fairly unglamorous. When an application has gone wrong, determining the type and amount of pesticide left behind can take days or weeks.

The process of testing pesticides often does unfold in a way of a criminal investigation. Like the testing of DNA or other samples related to a violent crime or murder, a pesticide analysis requires fieldwork, an investment of time and the proper tools. Just like a crime investigation, the scrutiny behind a pesticide case involves the collection of samples. WSDA scientists at the Chemical and Hop Laboratory – like their TV counterparts – must perform thorough tests and deliver results as quickly as possible. The primary difference is that our WSDA scientist analyzes pesticide specimens while the TV forensic specialist analyzes human tissue and DNA, bodily injuries and objects used as weapons. It's the pesticide compliance investigator rather than a detective who submits samples to the lab. Samples for pesticide testing include, but are not limited to plant tissue, soil, water, animals (parts or whole) and insects. If human exposure to a pesticide is of concern, clothing is taken from the scene and analyzed for residue.

Unlike a one-hour television drama – or the real world of forensic science – conclusive pesticide tests can and do take days or weeks. In the real world of a WSDA investigation, the skilled field professional and the competent lab scientist use proper tools and take painstaking efforts to ensure the quality and reliability of test results.

Department Actions

PESTICIDE MANAGEMENT DIVISION | April 1, 2003 through March 31, 2004

PERSON AND COMPANY	LIC	$ AND DAYS	DESCRIPTION	EQUIPMENT	PROVISION(S)
Alta Golf (orchard), Pateros	UL	$600	Failed to post application information and safety poster at central location		t
Cenex Harvest States Cooperative, Othello	PD	$600	Sold RUPs to unlicensed applicator. Failed to submit distribution records		u,w
Thomas DentTom Dent Aviation, Moses Lake	CA	$700	Drifted desiccant herbicide, damaged alfalfa	4	a,b,d
John DeSoto, Tacoma	CC	$500+ 9	WDO inspection without license. Failed to submit WDO records		h,p
Major Dhaliwal, Omak	PA	$1,000	Multiple drift incidents exposing people; no instruction on safe equipment operation. No safety poster or application information posted; inadequate application records	1	a,b,c,d,g,n,q,r,s,t
Fred Ellis, Paratex American Pest Management, Aberdeen	CA	$300	Inadequate WDO inspection and report		b,f,i,
Chris Eskildsen, B&R Aerial Crop Care, Inc., Connell	CO	$3000+ 30	Drifted onto school grounds exposing multiple people; inadequate records	4	a,b,c,d,g
Norman Ferguson, All Pest, Camas	CA	$500+ 5	Inadequate application and WDO inspection records. Failed to issue WDO report prior to treatment		e,f,g,x
Jerry Forney, Oroville	PA	$250+ 5	Drift with human exposure	1	a,b,c,d
Lee Gale, Malaga	PA	$0+ 9	Employee applied w/in label-restricted aquatic buffer; failed to contact fish/game agency	1	a,q,
David Gardner, Gardner's Trust, Inc., Olympia	CA	$700+ 9	No MSDS in vehicles, inadequate records, unlicensed applications, improper storage	3	g,h,v,z
George Guttman, Sound Home Inspections, Seattle	CC	$0+ 14	Inadequate WDO inspection and report		b,f,i
Kyle Jacobs, Yakima	PA	$1000+ 16	Drifted herbicide, damaged orchards	3	a,b,d
James Keller, Tieton	PA	$300+ 3	Failed to submit application records		w
Danny Ledoux, Moscow, ID	CA	$0+4473	Falsified and inadequate records, unlicensed operators, aiding/abetting		g,h,j,k,lm,
Randy Ledoux, Green Baron, Yakima	CO	$350+ 5	Drift with human exposure	3	a,c,d
Thomas Lipp, Sprague Pest Solutions, Seattle	CO	$0+ 30	Forged license; lied to investigator		i,j
William Lott, Farm & Forest Helicopter, Napavine	CO	$850+ 13	Drifted on residential & commercial property	5	a,b
Antonio Maldonado, Monitor	PA	$0+ 3	Applied within label restricted aquatic buffer; drifted into Wenatchee River.	1	a,b,o
Alfonzo Mata, Malaga	PA	$0+ 3	Applied within label restricted aquatic buffer	1	a,b,o
Anthony McFadden, TruGreen Chemlawn, Spokane	CO	$650+ 0	Applied spray contaminated with herbicide, damaged landscapes	3	a,b,d
Ronald Mitzel, Flite Level Zero, Othello	CO	$450+ 4	Drifted herbicide, damaged winter wheat	4	a,b,d

Charles Patterson, Design Outdoors, Wenatchee	UL	$1000	Unlicensed applications, failed to submit records	3	h,w
Phil Pearson, Pearson Aircraft, Wilson Creek	UL	$1800	Unlicensed applications, failed to submit records	4	g,h
Jeremy Razey, Martin's Farming, Moses Lake	CO	$450+ 7	Didn't wear necessary PPE	3	a,b,y
David Rickenbach, Eltopia	UL	$300	Poisoned dogs with baited carcass, used an RUP without a license		a,b,c,d,h
Efrain Sandoval, Omak	PA	$300+ 9	Drift with human exposure	1	a,b,c,d,r
Raymond Schmitten, Cashmere	PA	$0+ 9	Employee applied within label restricted aquatic buffer. Failed to contact fish/game agency	1	a,q
Christopher Senske, Senske Lawn and Tree Care, Kennewick	CA	$2500+ 0	Employee applied herbicide contaminated spray, damaged landscapes	3	a,b,d
Simplot Grower Solutions, Moses Lake	PD	$0+ 3	Sold RUP to unlicensed applicator. Inadequate distribution records, tardy submission		u,w
John Smith, Paratex American Pest Management, Aberdeen	CA	$1300+ 20	Inadequate WDO inspection and report		b,f,i
TruGreen Chemlawn, Spokane	NA	$1100	Employee applied spray contaminated with herbicide, damaged landscapes		b
Gary Webb, Spokane Procare, Spokane	CO	$250+ 7	Drift, damaged landscape	3	a,b,d
Phillip Williams, Premiere Pest Control, Tacoma	UL	$600+ 10	Unlicensed and inadequate WDO inspection and report; failed to submit WDO records		b,h,i,
Gregory Zacher, Wenatchee	PA	$0+ 20	Supervised application drifted, endangering people	1	M
Ted Zacher, Wenatchee	UL	$1000	Drifted, endangered people; inadequate records	1	a,b,c,g,q
Kirk Zirker, Windflow Fertilizer, Mattawa	CO	$640+ 3	Drifted, damaged vineyard	2	a,b,d

Total: $22,990 and 4,719 days of license suspension; and 2 court injunctions.

Licenses: CA = Commercial Applicator, CC = Commercial Consultant, CO = Commercial Operator, PA = Private Applicator, PD = Pesticide Dealer, UL = Unlicensed

Equipment: 1 = Airblast 2 = Ground boom 3 = Ground (other) 4 = fixed-wing air 5 = helicopter

Violations:

a Applied, recommended, caused contrary/inconsistent with label (RCW 15.58.150(2)(c), WAC 16-228-1500(1)(b))
b Operated in faulty, careless or negligent manner (RCW 17.21.150(4) and WAC 16-228-1500(1)(e))
c Applied, stored or transported endangering humans, their environment, or food (WAC 16-228-1200(1))
d Applied or transported polluting water, causing damage/injury to humans or desirable plants (WAC 16-228-1220(2))
e Failed to make inspection, statement or report in violation of WDO rules (WAC 16-228-1500(1)(u))
f Failed to comply with criteria for structural pest inspectors (RCW 15.58.150(2)(e)
g Maintained inadequate pesticide application records (RCW 17.21.150(6) and/or WAC 16-228-1500(1)(g))
h Applied or consulted without a proper license (various).
i Made false, misleading or erroneous statements about a pest infestation or in connection with a department (RCW 17.21.150(13) and WAC 16-228-1500(1)(p))
j Made false or fraudulent records, invoices, reports, recommendations (RCW 17.21.150(7) , WAC 16-228-1500(1)(h))
k Aided or abetted to evade provisions of this chapter (RCW 17.21.150(12) and WAC 16-228-1500(1)(o))
l Caused application without having certified applicator in direct supervision (WAC 16-228-1500(1)(i))
m Acted as certified applicator without providing direct supervision to unlicensed person (RCW 17.21.150(8))
n Failed to assure pesticide applied so as not to contact people directly or by drift (WAC 16-228-233-210(1)
o Applied and polluted streams, lakes or other water (WAC 16-228-1220(3)
p Failed to submit WDO records requested by Department (WAC 16-228-2000(3)(k))
q Failed to assure pesticide applied consistent with label (WAC 16-233-020(1)(b)
r Failed to assure no drift or overspray contacted worker or persons (WAC 16-233-210(1))
s Failed to instruct on safe operation of equipment to avoid drift (WAC 16-233-235(1))
t Failed to post safety information and/or safety poster on central notification board (WAC 16-233-130, WAC 16-233-145)
u Sold RUPs to unlicensed applicator(s) (RCW 15.58.150(2)(a), WAC 16-228-1231)
v Failed to store pesticides in secured enclosure (WAC 16-228-1220(6)(d)&(e)
w Failed to submit (or tardy submission of) application or distribution records requested by the Department (RCW 17.21.100(3)(4)(a), WAC 16-228-1320(3), WAC 16-228-1231(5))
x Failed to conduct a WDO inspection prior to treatment for WDOs (WAC 16-228-2020(1))
y Handlers must use clothing and PPE required on label (WAC 16-233-245(1))
z Made landscape applications without carrying a MSDS in vehicle (RCW 17.21.400(1)(a))

Structural Pest Inspectors: Avoid becoming a "statistic"

WSDA investigators suspect that the complaints related to structural pest inspectors may only be a fraction of the actual number of grievances.

There are least five reasons that may explain why complaints about the quality of structural pest inspections never reach WSDA:

1) complainants resolve the issue on their own;

2) the public is unaware that WSDA licenses and regulates structural pest inspectors;

3) attorneys tell complainants that nothing can be done;

4) contract language states that the inspector is only responsible for the cost of the inspection; and

5) people, for whatever reason, decide they don't have time to go through the complaint process.

If you are a structural pest inspector chances are that a complaint will be filed against you sometime during your career. Based on data that WSDA collects, it's a statistical reality. If you need evidence, review the numbers below.

- WSDA licenses approximately 24,000 individuals a year
- Of these, 900 are structural pest inspectors (3.75%)
- WSDA investigates about 240 complaints each year
- Of these, 40 are related to structural pest inspectors (17%)

The complaints WSDA receives against structural pest inspectors probably represent the tip of the iceberg. Many complaints related to the quality of *complete* structural inspections for wood destroying organism (WDO) never reach the department.

Why do many Washington residents – at least the ones we hear from – find fault with licensed inspectors? What is it about inspectors' work that generates dissatisfaction? There are four common reasons why individuals file complaints:

- Inspector did not perform a thorough inspection
- Inspector did not explain limits of inspection
- Seller or contractor covered up damage, and inspector was unable to see it
- Dissatisfied people appear more willing to file lawsuits rather than resolve disputes amicably

Whatever the reason, repair costs associated with faulty inspections have skyrocketed to thousands and tens of thousands of dollars in damages.

INSPECT BY THE RULES

A WSDA-licensed inspector is responsible for conducting an accurate and thorough inspection of residential property as outlined in the administrative guidelines (see WAC 16-228-2005) known as Rules Relating to Wood Destroying Organisms (WDOs). Summed up in a sentence, the guidelines require that an inspector report all conditions *visible and apparent* at the time of an inspection. Customers expect that an inspector will disclose and report damage done by ants or termites, two pests that feed on and/or destroy wood. They expect that the licensed professional will disclose conditions that promote the introduction of such pests. Appropriately, it's an inspector's role to inform a client about any exclusions or disclaimers associated with the inspection. Make sure to state them clearly, and that all parties understand the exclusions. For example, explain to a homeowner that short of removing floorboards and sheet rock, you may be unable to detect all signs of WDOs and the damage such pests inflict.

WHEN THE "COMPLAINT CALL" COMES

What happens when a person contacts WSDA to complain about an unsatisfactory inspection? On this end, we ask: "Have you discussed this with the inspector?" If the caller says no, we advise him/her to take complaints to the inspector first. A reasonable step toward resolution is face-to-face interaction with the inspector who (in the caller's opinion) performed an inadequate inspection. Most complainants do take this step.

When a dissatisfied client does contact you, visit the site without delay, identify the key concerns, and explain the inspection process, (again, if necessary). Refrain from hiding behind exclusionary language that says an inspector is only responsible for the cost of the inspection. Nothing irritates a complainant more. If a mistake occurred, admit it, fix it, and move on. Sure, you may be in the *right,* but ask yourself: Can my business afford a protracted legal battle?

If, after visiting the site, a resolution is not apparent and the complainant insists on filing a formal grievance, just cooperate. All citizens have this right and, when requested, the department will conduct a fair, impartial and thorough investigation. At WSDA we prepare each investigation as if it may end up in court. But we encourage parties to find a compromise solution since lawsuits are expensive and no party is guaranteed of winning.

COMPLY WITH INVESTIGATOR'S REQUESTS

At the start of an investigation, you will receive an official WSDA records request. Compile the information, sign, and return the form by its due date. Don't return a request saying, "I did not do a pest inspection, I did a home inspection." In most cases, WSDA staff has seen your report already, and know what the inspection entailed. All home inspections include at least some

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WSU PESTICIDE NOTIFICATION NETWORK, TRI-CITIES

WSU enhances its free service for pesticide information

*By **Jane M. Thomas**, PNN Coordinator*

Washington State University's Pest Management Resource Service has launched a new version of the Pesticide Notification Network (PNN).

The Network distributes information about new and revised pesticide labels (including Special Local Needs or SLN registrations and Section 18 exemptions), proposed use deletions, product cancellations, and pesticide-related regulatory changes in Washington state. It does this through a targeted subscription listserv and the Internet.

The new Network services include:

■ **Searchability.** All previously distributed PNN notifications are now available for search and review on the web. Notifications are posted in chronological order. And, the new system allows the user to search the listed notifications by date, crop, and/or keyword. SLNs for Washington and Oregon and Section 18s for Washington are also searchable in the new system.

■ **Online Subscription.** Individuals or organizations that wish to receive notifications about specific crops can subscribe to a targeted e-mail listserv free of charge. By selecting specific crops/usage sites and other parameters when subscribing, users receive only those pertinent notifications. With the new web-based system, subscriptions now may be completed and edited on-line.

■ **Streamlined Notifications, Improved Readability.** In the past, PNN notifications have come as e-mail attachments, proving cumbersome to some users. The new system embeds the content of the notification into the e-mail for easier reading and fewer "clicks" for the user.

Since 1997, Washington State University has run the Network for the state Commission on Pesticide Registration. In the past seven years, enhancements have included the addition of the web site and the posting of electronic copies of SLN and Section 18 labels. The Network's services continue to expand and respond to the needs of its subscriber base – the state agricultural community – by providing targeted, timely information related to pesticide use in the Pacific Northwest.

The new and improved Network web site can be found at ext.wsu.edu/pnn where interested parties may also subscribe to the listserv. Both the web site and the subscription service are free of charge. For more information about Network services write jmthomas@tricity.wsu.edu or call (509) 372-7493.

Structural Pest Inpectors... *continued from page 14*

information about WDOs or conditions conducive to ants, termites and other wood infesting pests. As an inspector, if you report such information, you have performed a "pest inspection" and must comply with the department's request for records.

WSDA staff will review the inspection records in question, and inquire about subsequent inspections at the property. Remember: it is the *follow-up* inspections that bring a problem to the forefront. Structural pest inspectors have come before and will come after you to survey properties for wood damage. It's the role of Pesticide Management staff to review other inspectors' reports for previous descriptions of the structure's condition. Quite often, it's a follow-*up* inspection that brings a problem into focus for the complainant and WSDA.

Regardless of an investigation's outcome, the process is costly to the inspector. Spare yourself the expense of an investigation and/or legal action. Avoid becoming a statistic. Instead, make it a point to conduct accurate and thorough inspections each and every time. And, if that complaint call comes, handle it. Don't ignore it in hopes that it will fade away. That rarely happens.

Drift management 101 for orchard sprayers

To apply pesticide products near sensitive areas is a matter of practicing good stewardship – and common sense. The decisions an applicator makes affect not only the targeted crop, but also all property near that crop. Whether the sensitive site is endangered species habitat or a neighbor's garden, pesticide applicators need to consider their immediate surroundings.

Today's pesticide labels emphasize drift reduction and/or elimination. The information below is primarily directed at orchard applications, but many principles for reducing drift pertain to other types of applications. The factors that impact spraying decisions fall under two categories: unmanageable and manageable. Weather cannot be managed, but common sense choices, based on weather, can be made. Common sense aside, other manageable factors include equipment choices, application techniques, and the conviction to comply with the label.

MAKE REASONABLE AND RATIONAL DECISIONS

If you're applying common sense, you're taking the time to identify sensitive sites in the potential drift zone. Sensitive sites include surface water, wells, residences, susceptible crops (injury potential or illegal or excessive pesticide residues), home gardens, farmer's markets, private gardens as well as schools and day-care centers. Nurseries, parks, roadways and highways adjacent to the orchard are also in the list of sensitive areas.

EQUIPMENT & APPLICATION MODIFICATIONS

A professional applicator may increase droplet size and/or decrease the quantity of fine droplets by taking three steps 1) lowering application pressure; 2) using bigger nozzles; and 3) installing drift control nozzles. Consider the following instructions:

Direct the spray at the target. Do not shoot a plume above the canopy in the belief that pesticide will sprinkle down on the upper leaves. Similarly, avoid banking spray off of the orchard floor to the underside of leaves in the lower canopy. Only use the blower speed needed to penetrate the canopy.

Move the nozzles closer to target. Tower-type sprayers negate the need to blow spray above the canopy. Research data is inconclusive as to the benefits of tower-type sprayers on drift reduction. Anecdotally, however, one can observe the difference by comparing the plumes from a conventional versus tower-type sprayer.

Consider using adjuvants. Do not become overconfident after adding a drift control agent. Some research indicates that the quantities of fine-sized droplets (most susceptible to drift) are not decreased by drift control additives. Air blast sprayers can drift pesticides hundreds of feet, so adjust the number of rows accordingly. It's also a good idea to slow tractor speed down to compensate for lower fan speed and/or reduced pressure. Surfactants can help by increasing pesticide uptake, and reducing losses due to volatilization and leaf surface wash-off. At a minimum, spray the three rows closest to sensitive areas using only nozzles on one side of the sprayer. In addition, spray with the operating nozzles directed away from the sensitive area. With respect to applications near sensitive areas such as surface water, you will find similar, mandatory instructions on some pesticide labels. (To learn more see the WSDA web page at **agr.wa.gov/PestFert/Pesticides/ComplianceActivities.htm**).

The recommendations above boil down to the simple need to frequently calibrate a sprayer. It may be necessary to recalibrate when moving between blocks with different tree sizes, canopy volumes or shapes, and when topography or orchard floor conditions (excess debris) require adjusting tractor speed. If you find that an air blast sprayer has the same size nozzles, nozzles without shutoff valves (or inoperable valves), or you lack familiarity with adjusting fan speed, consider calibration training. While frequent recalibration is time consuming, it does result in reduced chemical costs and less drift.

Some research shows that the efficacy of a pesticide application is not compromised if an applicator reduces pressure and increases droplet diameter. If you are concerned that drift control measures will compromise your ability to control pests, talk to your agricultural consultants. Encourage your state and federal agricultural research units to study new ways to reduce drift and still control pests.

FOLLOW THE LABEL

Move, adjust or shut-off nozzles. Because pesticide labels have changed dramatically in recent years, growers must always follow the directions found on the container of pesticide they are using. Are you aware that the current Vanguard label states, *"Spray last three rows windward of aquatic areas using nozzles on one side only, with spray directed away from aquatic areas. Avoid spray going over the tops of trees by adjusting or turning off top nozzles. Shut off nozzles on the side away from the grove/orchard when spraying the outside row. Shut off nozzles when turning at ends of row or passing tree gaps in the rows."* Examples of other products with similar language include Vendex, Danitol, Avaunt, and Pyramite.

To consistently reduce drift in orchard applications, a professional must become a good environmental steward and be highly knowledgeable of equipment, the surroundings, label requirements, toxicity of the pesticide and weather changes. Visible plumes (spray particles) rising 30 ft. or more above the canopy or extending past the outside orchard rows and moving towards and onto sensitive areas can be a sign of poor stewardship.

Determine wind speed and direction relative to non-target areas. Measure wind speed out of the orchard on the windward

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How to sidestep a common insurance mistake

Each year you dutifully renew your required insurance. Now, a compliance officer explains that you have violated the law for failing to maintain an updated Financial Responsibility Insurance Certificate or FRIC.

And what, you ask, is a FRIC? You're not the only one in the dark. This violation – overlooking a form that verifies coverage – is one of the most common missteps made by Commercial Applicators (CA) and Structural Pest Inspectors (SPIs). And, yet, it is one of the easiest to avoid.

If you use an insurance policy rather than a bond to meet your financial responsibility requirement, the FRIC is the form your agent uses to verify your coverage to WSDA. Your agent must complete a part of this form that asks for the *policy period*. (Usually, the length of a policy is one year.) Prior to the expiration date listed on the FRIC, you are required to submit an updated version to WSDA. Since your agent must fill out the form, WSDA usually receives the completed form directly from them. Ultimately, however, it is your responsibility to make sure WSDA receives the form on time.

We recommend that you place a reminder on your calendar to call your agent prior to your renewal date. Remind him/her that a FRIC must be sent to WSDA prior to the policy's expiration. Email your agent the WSDA Internet address that links to the correct form. FRICs for CAs and SPIs can be found at **agr.wa.gov/PestFert/LicensingEd/CaSpiInfo.htm**. Select your license type, and then go to information for insurance and bonding agent. If you are a SPI, make sure to direct the agent to the correct FRIC (there are two). Occurrence-based insurance is reported on the Option 1 form. Claims-made insurance, which also requires a $12,500 bond, is reported on the Option 3 form.

By submitting your FRIC on time, you will avoid the unpleasant – and untimely – news that your license is invalid, perhaps, just as you're completing an important contract. Being on time is simple: Mark your calendar, identify the right form, and work proactively with your agent to keep that license current.

Drift management... *continued from page 16*

side. Place flags on the periphery of the orchard or above the canopy that can be seen while spraying and check them frequently. If you are shooting a plume above the canopy or outside of the orchard, refrain from spraying if the wind will carry pesticide to a sensitive site. Some insecticide labels prohibit applications when wind speed exceeds 10 mph. Other labels warn against spraying when the wind is calm and blowing between 0 and 2 mph.

Leave yourself plenty of time to make your application. Do not wait until the end of the application window; doing so may result in mistakes or applications made in less than optimum conditions.

Temperature and humidity affect your spray. During an application, volatile chemicals can become more volatile as they travel through warm air. Once volatilized, the pesticide can drift off-site and may impact sensitive areas. A combination of high temperatures and low humidity can evaporate the water in a spray droplet, resulting in smaller droplets that are more susceptible to drift.

Spraying during a temperature inversion may result in long distance drift. Many labels prohibit applications during temperature inversions. Temperature inversions occur frequently, and are most likely in the morning and evening.

Establish a spray buffer (e.g. removing rows of trees) for agricultural areas adjacent to sensitive areas. And consider planting trees to act as a spray barrier.

Finally, it's important that applicators continue to educate themselves. Take courses, subscribe to newsletters and network with peers. The publication Orchard Spraying in the Pacific Northwest (PNW 174, through Pacific Northwest Cooperative Extension) contains valuable information on calibrating orchard sprayers and making sprayer adjustments for specific problems.

Information in this article was compiled from Cooperative Extension publications, trade journals, and scientific literature, and WSDA pesticide complaint investigations, and the rest is just plain common sense.

Changes to pesticide rules provide clarification, better security

During 2003 WSDA solicited public comment on changes to the rules that regulate pesticide use. After a thorough review of public and industry comments, Agriculture Director Valoria Loveland adopted the final rules in late November 2003.

Major rule changes have a direct affect on some, but not all industry professionals. These revisions seek to ensure the safe and proper use of pesticides in a climate where terrorism has become a genuine threat to the nation. ***Minor*** rule changes clarify the regulatory language and/or give pesticide users more options.

Below are highlights of both types of rule changes:

Dealers. The new rules require the positive identification of any purchaser or authorized agent on the receiving end of restricted use pesticides. (This rule applies to new, unknown clients). Positive identification includes such documents as a driver's license, military identification card or passport. Proof of identification without a photo is allowable if the individual's religion disapproves of picture taking. Pesticide dealers who sell restricted use pesticides must also record the crop or site location. Whenever possible, dealers of general use pesticides should provide crop and site location in their records.

Licenses. Commercial and Public Consultant licenses now expire December 31 of the year issued. The recertification period remains the same (5 years).

Structural Pest Inspector. This recent change identifies the testing requirements for individuals who perform structural pest inspections. (Pesticide law also requires inspectors to provide the department with proof of financial coverage and be employed by a WSDA licensed Structural Pest Inspector Company). Not only will the new rule improve the department's ability to regulate inspectors, but it also will afford consumers greater protection.

Recordkeeping. Applicators now will have more options in how to record pesticide use in official documents. For example, information from Geographical Positioning Systems (GPS) is allowable as is various methods of documenting concentrations. An applicator must record each customer's full name, product names, and (as before) information regarding the use of adjuvants.

Pesticide Applications in Communities. There are two new sections of the general rules. One focuses on pesticide application by aircraft or airblast sprayers near schools, hospitals, nursing homes or similar establishments. The second section deals with the restricted use status of *phenoxy* products. Both sections received numerous comments. While the suggested changes were adopted, the two sections have been reopened for further consideration. Pesticide Management staff plan to work with advisory committees on proposed (new) wording.

To download a copy of the general rules visit ***agr.wa.gov/PestFert/Pesticides/docsGenRulesWFrms.doc*** *or write to WSDA, Pesticide Management Division, P.O. Box 42589, Olympia, WA 98504-2589.*

To request a copy by phone, call (360) 902-2040.

PESTICIDENOTES Extra!

This year's extra edition on the WSDA web site contains the following:

- **Drift distances for aerial, airblast and ground applications vary greatly**
  Results from compliance work suggest that applicators should be wary of long distance drift from ground and aerial applications.
- **Fumigating with methyl bromide means playing it safe**
  This article details the requirements to follow during methyl bromide applications.
- **Ongoing ban works: Compost sampling drives point home**
  Fall sampling results confirm that the measures implemented to reduce clopyralid residues in compost are working. November 2003 results show an 80 percent reduction in residues over 2002 levels.
- **Quick web site reference**
  This page lists the web sites and acronyms used in the 2004 PesticideNotes newsletter.

PESTICIDENOTES **Extra!** is found at **agr.wa.gov/pestfert/publications/newsletter/2004.htm**.

OPERATORS: DON'T DELUDE YOURSELVES

Common misconceptions about chemigation applications

No matter what an operator's experience or how many years spent in the field, many pesticide applicators harbor misconceptions about chemigation operations. But by perpetuating such myths, an operator may be contributing to adverse environmental and human health effects.

Unfortunately, and in the experience of WSDA investigators, some operators knowingly proceed with wrongful applications. Consider some of the myths being perpetuated among Washington state operators:

MYTH No. 1
Drift provisions do not apply to chemigation applicators

A chemigation operation is subject to all the pesticide label provisions that pertain to drift, including wind speed, temperature, and atmospheric inversions. In the case of all the above ground chemigation applications, drift provisions fully apply. As management practices go, labels cannot be all-inclusive. When it comes to different system designs, an operator may use discretionary judgment so long as he documents the practice and how (why) it varies from label requirements. In short, an operator needs to exercise discretionary and rational judgment.

Consider this question. Should a label provision related to wind restrictions apply to a chemigation operation that uses sub-surface drip irrigation? Legally, the answer is "yes." Logically and operationally, the response is "no." And, during an application interval should an operator report wind speed on the form? Unquestionably, "yes." Prudence and sound judgment guide an applicator in the use of a pesticide. That's even truer when the label does not define conditions for its use.

MYTH No. 2
Application of Non-Restricted Use Pesticides Don't Warrant WSDA License

Everyone who chemigates ***must*** be licensed regardless of what class of pesticide used. A predetermined level of competency is required among those operating chemigation systems. An improper chemigation operation all too easily can have detrimental outcomes, such as jeopardizing human health and damaging the environment. In addition, the remediation of a backflow incident (e.g. treated water entering an irrigation ditch or product flowing into an irrigation well) may be expensive and, quite probably, impossible to achieve. A pesticide license demonstrates a certain level of knowledge and competency.

MYTH No. 3
Diluted Chemigations Make Run-Off, Leaching A Non-Issue

First, this statement is illogical. An applicator cannot equate the rate of application to the product's level of concentration. In other words, an application of soil fumigant at 55 gallons per acre remains 55 gallons per acre, even if the product is diluted with water. Moreover, if an applicator adds more diluent, there exists a greater potential for deep leaching beyond the desired application zone and a higher incidence for surface run-off.

Second, the pesticide label is a legal document. Applying a product to a site other than the intended treatment area is in violation of that label and state pesticide laws and rules. In addition, if an application occurs over state waterways (irrigation canals, drainage areas as well as streams, rivers and lakes) or if surface water run-off enters such bodies, the action is considered the "discharge of a pollutant." That, in turn, is a violation of the Clean Water Act.

In future publications, program staff plans to tackle other application myths. For more information regarding the common misconceptions above or for other assistance, contact the Chemigation/Fertigation Technical Assistance Program. Call or write Tom Hoffmann, (509) 766-2574; thoffmann@agr.wa.gov; or Byron Fitch, (509) 766-2575; bfitch@agr.wa.gov

MYTH No. 4
Water Delivered By Irrigation Ditch Does Not Require Backflow Devices

Who may waive requirements? Only a WSDA inspector has the authority to waive the backflow requirement. A non-authorized individual who makes a waiver determination is in violation of pesticide label provisions. Violations are subject to regulatory action by the Environmental Protection Agency and WSDA.

Backflow prevention is required *if* treated water has the potential of flowing into a body of water that is not wholly contained on the farm. *Only* a WSDA inspector may waive the backflow requirement, provided that an equal protection is afforded by system design. For instance, if an irrigation pond is wholly contained, and water cannot leave the farm, backflow equipment is not necessary. Again, a WSDA inspector must waive the need for specific devices. But, if overflow from a pond re-enters an irrigation ditch (due to overflow riser or diversion), backflow on the irrigation application system is required. Irrigation districts have begun monitoring systems for possible backflow into irrigation supply and recovery systems. Local entities have taken these steps to both protect people from fouled irrigation water and abide by water quality criteria in the Clean Water Act.

New noxious weeds appear on state's 'weed list'

*by **Dana Coggon**, Education Specialist, Noxious Weed Control Board*

Explore the WSDA's retooled web site, www.nwcb.wa.gov. It's a site rich with plainly written articles and creative ways to educate the public. For more information or a referral to a county weed board, contact Dana Coggon at dcoggon@agr.wa.gov or (360) 902-2082.

> *It looked so pretty there in the ditch, so, I moved it to the rockery in a little niche…*
>
> *– by **Cheri Marsh**, MasterGardener, Chelan County*

For people in the business of controlling weeds, warm weather brings with it the knowledge that it's noxious weed season. Recently, the State Weed Board added 10 new weed species to the state's official and growing list of weeds. The board is responsible for developing policies to protect and preserve state lands and resources from invasive species. They do that by determining what plants are noxious weeds and monitoring suspect plants. A few of the 'invaders' by name include Kudzu, four types of knotweed (Mexican bamboo), myrtle spurge, and hoary alyssum.

Some of our favorite ornamental plants can quickly become a weed. A plant, such as St. John's Wort or purple loosestrife, that crowds out native plants and other beneficial flora is considered a weed. Yes, it's a weed, no matter how attractive it looks in a garden, countryside, road or freeway right-of-way. Below are two species that the board has recently added to the list of noxious weeds and actively work to control:

Knotweeds (left) – Giant, Japanese, Himalayan, and Bohemian – have run rampant on Washington rivers. This plant was originally brought to the United States as an ornamental garden bush. But the bush, also known as Mexican bamboo or poor-man's bamboo, has since spread from the garden to cover many miles of our rivers. These plants with bamboo-like stocks stand seven- to 15-feet high and have broad leaves. It commonly forms large thick clumps that reproduce by underground roots as well as ground-broken shoots.

Myrtle spurge, another newcomer weed, rapidly overtakes dry areas. It was first reported as a troublesome weed in Grant County and is now being surveyed statewide. The entire plant (leaves, stems, roots) has a milky sap that can cause severe skin irritations. It is sometimes referred to as mole-plant or gofer spurge, and may be observed in local gardens. Myrtle spurge is a low-spreading perennial with fleshy, trailing stems. Mature plants grow four-to six-inches tall and spread as wide as 18 inches. The plant has fleshy blue-green leaves arranged in spirals around the stems. Yellow-green flowers clump on top. This weed reproduces by seeds and root-fragments.

Knotweeds and myrtle spurge are only two of the newest types of weeds that the Noxious Weed Board is eager to control. The board cannot do it alone: controlling and preventing the spread of noxious weeds is about providing up-to-date information to communities at large.

Mosquito permit now available to commercial applicators

To learn more about West Nile virus, a mosquito borne disease, visit www.doh.wa.gov/wnv

For questions, contact the state Department of Health, Ben Hamilton, (360) 236-3364, Benjamin.Hamilton@doh.wa.gov

For the 2004 mosquito season, the state Department of Health is offering an extension of its permit coverage for the National Pollutant Discharge Elimination System (NPDES). The extension will be provided at no charge to cities, counties, and other entities working to control mosquito larvae in surface waters. An NPDES permit is required before applying any larvicide to water bodies of the state, such as a lake, river, stream, wetland or retention pond.

Now, commercial applicators are allowed to obtain permit coverage to treat mosquito larvae on private- or publicly-owned water bodies. By extending coverage to commercial applicators, the state hopes to make the permit process more efficient and allow for a quick response to a potential mosquito problem.

In April of 2003, the Department of Health obtained an (NPDES) aquatic mosquito control permit from the Department of Ecology to assist communities in controlling the spread of West Nile virus. Of the 76 entities that were extended permit coverage through the Department of Health in 2003, 47 applied aquatic larvicides for mosquito control.

For more information about the permit, best management practices for mosquito control, and the online application for the Health permit, visit:

www.doh.wa.gov/ehp/ts/Zoo/WNV/Permit.html

Licenses for Limited and Rancher Private Applicator become permanent

Counties in eastern Washington will soon have another tool in the fight against noxious and other problem weeds. In late March, Governor Locke signed a bill that creates two permanent licenses developed to help combat weeds on non-production and limited production agricultural land.

The Limited & Rancher Private Applicator licenses were developed as an alternative to the broad-based Private Applicator license. The limited license allows growers to apply restricted use herbicides on non-production agricultural land, such as pastures, range land and areas around farm buildings. The rancher license allows the use of restricted use herbicides as well as rodenticides on non-production agricultural land and on limited production agricultural land where grain and hay are grown for primarily personal use. Under this very strict allowance, ranchers may only sell 10 percent of the hay and grain they grow.

As compared to the Private Applicator license that must be renewed yearly, the new licenses are valid for five years and have reduced fee and recertification requirements.

These new licenses were evaluated in a pilot project in four northeast Washington counties. The goal of the project was to determine if targeted pesticide licensing requirements would encourage participation in WSDA's licensing program and, ultimately, help control noxious weeds. The pilot project's success prompted WSDA to develop legislation that, in turn, found overwhelming support in the 2004 Legislature.

When seeking these types of licenses, growers must keep in mind that neither one is intended for production agriculture. Holders of the licenses ***may not*** buy or apply restricted use insecticides or fungicides. And holders ***may not*** apply restricted use herbicides or rodenticides on land that is not classified as *non-production or limited production*.

Pilot project participants who meet their recertification requirement will be able to renew their licenses in 2005. All license holders will receive information about the new licenses with their 2005 renewal notice.

By late summer, additional information will be available at ***agr.wa.gov/PestFert/LicensingEd/default.htm*** *or by calling Pesticide Licensing toll free, 1-877-301-4555.*

WSU set to launch on-line recertification and prelicense courses

Earning high-quality recertification credits from WSU just got easier. And, for those seeking initial certification, the university will provide access to lessons that accompany prelicense study materials.

Because West Nile virus concerns have heightened the need for mosquito abatement, WSU's first online study aid is a set of lessons that supplement the public health pest control manual. Later this summer, WSU plans to launch the first of several online recertification courses. The online classes will allow pesticide license holders to earn credits from the convenience of their home or office computers. Each WSDA-approved course is designed to provide one recertification credit. Special noted courses will be available for Limited and Rancher Private Applicators to meet the requirement for laws, safety or weed management topics. Other offerings will include West Nile Virus update, regulatory issues, water quality issues, calibration, label interpretation, IPM and more.

For more information, visit the Urban IPM and Pesticide Safety Education web site, ***pep.wsu.edu*** *or contact Carol Ramsay, ramsay@wsu.edu ~ Carrie Foss, cfoss@wsu.edu ~ Becky Hines, hinesre@puyallup.wsu.edu.*

U.S. agriculture lags behind Argentina and Brazil in pesticide stewardship

Much is being doing in Washington and the rest of the United States to manage pesticide waste that includes unwanted pesticides and emptied pesticide containers. Despite active collection, disposal and recycling programs, Washington growers, dealers and manufacturers need to take additional steps to become better stewards of the products they use and sell.

Paterson-based farm manager Troy Grimes oversees a proactive program to collect and properly dispose of plastic pesticide containers.

At the National Pesticide Stewardship Alliance conference held in Arizona this past November, international presenters voiced a common theme: World-wide solutions to pesticide stewardship are critical to preserving the environment and health of our communities. Global companies that produce, distribute and sell pesticides must play a pivotal role in this effort. Ultimately, the presenters said, it's the end user and distributor that have the power to make a difference.

At last fall's conference, Canada, Argentina and Brazil demonstrated they are far ahead of United States agriculture in pesticide stewardship.

CANADA

Crop Life Canada (CLC) is the overarching organization that controls the stewardship policy, education, and enforcement of pesticide dealers. They have an aggressive warehouse certification program, "No Certification, No Ship" rule. If a dealer is not up to standards, CLC notifies registrants not to ship crop protection products until corrective action has been taken. A new training program requires all crop consultants and manufacturer representatives to successfully complete stewardship training every five years. Canada recycles 70 percent of all plastic pesticide containers at 1,250 collection sites. (Comparatively, the United States recycles approximately 33 percent of its plastic pesticide containers.) CLC sends registrants a bill at the end of the collection season. Total cost to operate the container-recycling program is about fifty-cents (US) for a two-gallon container.

Another difference between Canada and the US is found when comparing label language. The same compound will have vastly different language under the disposal section. The Canadian label instructs users to take containers to the nearest collection site. The U.S. label tells users to stand out of smoke if burned.

BRAZIL

Brazil requires pesticide registrants to not only register pesticides but also present a waste pesticide plan and container disposal plan. Pesticide dealers cannot sell pesticides unless they take back the empty containers. Brazil's program took five years of political action to enact.

ARGENTINA

Crop Life Argentina has developed collection stations and on-site plastic granulator/extruder machines. The plastic containers go into a granulator/extruder and come out as plastic posts. The extruder has an U.S. patent.

GERMANY

A German-based company that also farms in Washington state, returns all of the plastic and cardboard to the dealer.

Dealers Take Note:

If you choose not to accept the return of empty, clean and dry pesticide containers from your customers, you are adding to the waste stream.

Close the circle of the pesticide sale and provide an option for your customers to return plastic containers.

Good news from around the Pacific Northwest

Here in the United States and the Pacific Northwest, dedicated growers, applicators and others do incorporate pesticide stewardship as part of doing business. When it comes to container recycling, members of the Pacific Northwest Aerial Applicators Association and Washington Aerial Applicators Association represent the best in their industry. Many other people and organizations in Washington have devoted time and energy to the container recycling program. Growers can take advantage of programs to dispose of unwanted or unusable pesticides and empty, cleaned pesticide containers free of charge. (See the back cover for further information.)

The role of pesticide dealers

In the November 2003 edition of *Ag Professional* magazine, Jay Vroom, President of Crop Life America (CLA), expressed his belief that retailers are the key to successful recycling. He urges dealers to help complete the circle of product sales and allow customers to bring back rinsed containers. Mr. Vroom says CLA member companies are paying more than 3 million dollars a year to support container recycling. CLA would like other industry associations that use plastic to package pesticides

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HOW TO BE VIGILENT DURING SOCIAL EVENTS

Keep pesticides away from young hands

When storing pesticides, it is important to address safety issues pertaining to children.

From the get-go keep dangerous chemicals inaccessible to small children and pets. Take even greater precautions to lock up pesticides and fertilizers when small children visit during a social gathering. Parties, holidays and other festive occasions sometimes distract parents from checking on small children. And unsupervised children together with accessible pesticides can spell *disaster*.

This past spring, a WSDA compliance officer attended a social event and observed firsthand how close youngsters came to being injured. On that gorgeous day, three children, two of whom were under the age of three, had surreptitiously gained access to the homeowner's garage. Inattentive, partying parents did not see their children triumph past two closed doors. While the parents visited and enjoyed refreshments, the youngsters took their time rummaging through the garage. Eventually, they came upon the pesticide storage area. Serendipitously – and thankfully – a guest walked in on the children before they came into contact with, and possibly started sampling the pesticides. One of the products was strychnine-treated grain.

The party's host and children's parents avoided this near catastrophe. But it serves as a potent reminder to go beyond careful pesticide storage practices and legal requirements. If you invite guests to your home it's your job to plan for the unexpected, especially when children of distracted parents visit. Growers, applicators and others, do your part to protect youngsters – and pets. Remember: What constitutes adequate safeguards for your family may be wholly inadequate for the members of another.

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to pay their fair share to the Ag Container Recycling Council (**www.acrecycle.org**).

The role of growers

Take full advantage of the free programs offered in Washington state. Make a commitment to dispose of unwanted or unusable pesticides through WSDA's Pesticide Waste Disposal Program. Set up a system for storing and cleaning your empty plastic pesticide containers. Find out about the container collection schedule in your area. If your dealer doesn't accept empty, rinsed pesticide containers, urge them to reconsider and do their part in promoting good stewardship.

We are seeing an increasing trend with our older generation of farmers. The burden of waste pesticides is shifting to other family members after the farmer passes away. *Please seek the help of your field consultant and begin sorting and properly disposing of empty containers.* Work the usable products into your program, and dispose of unwanted pesticides through WSDA's free program. ***Do not burn*** plastic pesticide containers. It is harmful to the environment, your health and it violates state law.

Do not take your pesticide containers to a landfill. Pesticide residues have shown up in landfill leakage. Fewer landfills are accepting pesticide containers. It is a WSDA storage violation to dispose of any unrinsed pesticide container. With a robust statewide collection program, there is no need to resort to burning or landfills for disposal of your plastic containers.

Pesticide user checklist

As stewardship goes, pesticide users have a chance to do the right thing. It is up to the individual to recycle pesticide containers. The "throw it away" or "burn it" attitude tarnishes the reputation of agriculture and the rest of the user community. Importantly, such attitudes could lead to unwanted regulations. As a routine practice 1) rinse containers during mixing and loading; and 2) return clean and dry containers for recycling.

Some dealers are collecting containers and allow farmers to return empty clean and dry containers. Northwest Ag Plastics can provide you with a dealer in your area that collects containers at the dealership. Onsite service can be arranged for a large volume of containers. Collection events also are scheduled statewide. Consider hosting a collection event in your community. Pesticide stewardship is the responsibility of the pesticide-user community. All of us have an opportunity to step up and protect the air we breathe and the water we drink. We are capable and conscientious enough to manage the solid waste stream without additional regulation. Ask yourself now: Have you been doing your part?

*Plastic pesticide containers may only be recycled through the EPA approved ACRC program. The contact for Washington, Oregon and Idaho is Northwest Ag Plastics (**www.nwagplastics.com**) or call Clarke Brown at (509) 952-7146.*

TRAIN-THE-TRAINER PROGRAM

How the WSDA helps growers

After several Worker Protection Standard inspections revealed that fieldworkers were often not provided adequate pesticide safety training, in 2003 the state Department of Agriculture developed and introduced the **Train-the-Trainer** (T-t-T) **Program**. WSDA also discovered that the pesticide safety training received by pesticide handlers often failed to meet Worker Protection Standards (WPS) training requirements. Employers were out of compliance for several reasons that included a lack of awareness of WPS requirements, lack of written materials available and language barriers.

***Below**: Dean Hata, E.W. Brandt & Sons, Inc. and Jess Carkner, Sakuma Brothers Farm, conducting a pesticide safety training using role-play as the training method.*

Training benefits & materials

The majority of people who have attended the department's T-t-T workshops are orchard owners, supervisors, or managers who now have a better understanding of the WPS-training requirements for fieldworkers and pesticide handlers. In the daylong workshop, most WPS-required training points get discussed in detail so that trainers become familiar with each one. Participants learn different training methods and, as a result, become more efficient in hosting their own training sessions. In addition, these soon-to-be trainers become steeped in employer responsibilities to protect fieldworkers and pesticide handlers.

During a training session, participants receive the T-t-T Manual compiled by WSDA, a WPS How to Comply booklet by the EPA, and other training guides for pesticide handlers and fieldworkers. These resources help participants become effective trainers and come under compliance with all WPS requirements. WSDA also uses the T-t-T programs to notify attendees about important new developments. At the 2004 courses, a representative from the Department of Labor and Industries (L&I) was present to explain the new cholinesterase-monitoring rule.

At the end of each T-t-T session, most participants feel comfortable and capable of conducting their own training sessions effectively.

Training Methods

Research indicates that learner retention is greatly enhanced by using a combination of interactive training methods. T-t-T participants learn through interactive training methods, such as case study and group discussions, role-playing, hands-on activities, and television games, such as Wheel of Fortune or Jeopardy. By using a variety of methods, the trainer increases his or her chances of breaking through learning barriers. That's especially true among adults of different culture, non-native English speakers, and participants with varying literacy levels.

In photo, left, one of the trainers pretends to be drinking from a bottle of "soda" that he found after returning from a pesticide application. The other trainer pretends to be the co-worker who arrives too late to explain that the bottle contains a liquid pesticide and not soda. Consequently, a few minutes later, the person who mistakenly drank the pesticide started to feel sick.

After acting out the scenario, the trainers involve the audience by asking a series of questions such as: What was done wrong? What could have been done to avoid the problem?

Training environment

Among many other things, participants learn that the physical environment such as room temperature, space, noise, and other basic needs (drinking water, sitting and restrooms) for a training session can have an effect on individuals' comprehension and skill acquisition. An uncomfortable setting or inadequate facility may adversely affect skill acquisition.

Participant Comments

Since 2003, 226 people who work mainly in the tree fruit industry statewide have attended the department's TtT program at least once. Most of them walk away

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satisfied customers and confident trainers to be. Just consider some of their comments:

"It was a great training workshop, interactive, informative, and fun. I learned many new things."

Jorge Morado, Sakuma Brothers Farm, Burlington, WA

"The industry benefits by having well prepared trainers that can conduct effective and practical training sessions. Although I considered myself a trainer with experience, during the WSDA TtT I learned different training methods I had not used before."

Mario Molina, Zirkle Fruit Co., Pasco, WA.

"After attending two different T-t-T sessions, as a foreman, I feel very confident because I learned the WPS training requirements. I learned how to effectively deliver training sessions. In addition, I learned some of the responsibilities that employers have in order to protect their fieldworkers and pesticide handlers according to WPS."

Neftali Pereira, Washington Fruit & Produce, Quincy, WA.

Training locations & attendance

Since the programs began in 2003, nine Train-the-Trainer workshops have been conducted. To make training available to more people, sessions have been offered at locations statewide. This year's training events took place in Moses Lake, Pasco, Toppenish, and Omak, and drew 100 trainers. During the 2005 training session, WSDA plans to conduct at least four in the following tentative locations: Othello, Prosser, Yakima, and Wenatchee.

For information about this training program, contact Ofelio Borges, (509) 225-2625, oborges@agr.wa.gov or Flor Tovar, (509) 662-0590, ftovar@agr.wa.gov.

Now available: Spanish turf and ornamental weed manual, exams

Washington State University (WSU) and WSDA have responded to the increasing numbers of Hispanic landscape applicators by implementing a new study manual and corresponding exams. The vast majority of individuals who will benefit from the new materials work for commercial landscape companies.

Spanish manuals and exams enhance the learning experience of native Spanish speakers and make them more comfortable in the exam-taking process. The materials do not replace the need for a tester to learn and read English. The questions appear in Spanish, and the labels are presented in English. This mirrors the way labels are found in the marketplace. This may change in the future if registered labels become readily available in Spanish.

Unlike its English counterpart, which consists of two manuals, the Spanish manual combines the study material for the Laws & Safety and Turf & Ornamental Weed Control exams. The Spanish manual (reference number MISC 0492S) may be purchased from the WSU Bulletin Office at 1-800-723-1763 or on-line at **pep.wsu.edu/Education/StudyMaterials/studymaterials.htm**.

In winter 2005, WSU plans to hold a pre-license course in Spanish Turf and Ornamental Weed/Laws and Safety in Western Washington. Information on this course will be in WSU's annual course bulletin, published in October, and on the Pesticide Education program's web site at **pep.wsu.edu/Education/educ.html**.

With these additions, Washington becomes one of the only states in the country to offer Spanish exams for both growers and landscape applicators. For further information, contact Pesticide Licensing toll-free at 1-877-301-4555.

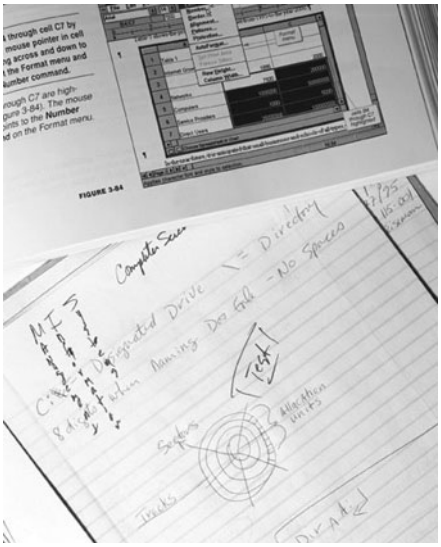
Spanish-speaking trainers needed

There has been an explosion in the number of certified landscape applicators whose first language is Spanish. As a result, Washington State University has a growing need for Spanish speaking trainers with expertise in turf and ornamental pest management. Interested individuals should contact Becky Hines, WSU Pesticide Education Specialist, at (253) 445-4595 or hinesre@puyallup.wsu.edu.

RECERTIFICATION COURSES MADE EASY

How to be a stellar sponsor

True or False:
Sponsoring a pesticide license recertification course is a fairly straightforward process. Well, the answer is both true and false.



The successful sponsorship of a recertification course is relatively straightforward, providing that the sponsor is fully aware of all steps to follow and does so in a timely manner. The process can become complicated quickly if an uninformed or remiss sponsor fails to follow the necessary steps.

In short, a sponsor must prepare an agenda, submit it to WSDA for accreditation, and at the end of a course, ensure that licensees have signed the roster that is then mailed to WSDA. **In more detail the key steps are as follows: ***

- Submit a completed **WSDA Request for Recertification Course Accreditation** form along with a brief meeting agenda.
- Prepare a detailed agenda that includes the start and end time of each presentation; start and end time of breaks and meals; and, a short, concise summary of each presentation.
- Realize that your course must contain at least 100 minutes of accreditable material. This includes topics dealing with pesticides, pests and pest management. (For further information, go to WSDA's Recertification Policy at **agr.wa.gov/PestFert/docs RecertificationPolicy.pdf**).
- Submit a request at least three weeks prior to the start of the course.
- Allow WSDA to monitor your course free of charge.
- Ensure that your speakers stay on track with the accredited agenda. Be prepared in case a speaker ends early or doesn't show up. Have a credit-worthy presentation or video ready in case you need to fill unexpected blocks of time.
- Maintain control of sign up rosters. Only allow attendees to sign for themselves and for sessions they attended. Promptly return completed rosters to WSDA.
- Notify WSDA of any changes to the accredited agenda.

* There are different requirements for independent study courses (correspondence, CD-rom, on-line, etc.). Go to **agr.wa.gov/PestFert/LicensingEd/Recertification.htm#SponsoringACourse** for further information.

On the other hand, the following steps are the many ways sponsors slow down, compromise or prevent accreditation of their courses:

- Failing to submit required paperwork: an accreditation request form with signature, and complete course agenda.
- Submitting a vague, incomplete or confusing agenda.

This is the number one error made by sponsors! Each topic on the agenda should include a brief, but concise description of the presentation. WSDA staff is very talented but they are not mind readers. If you don't know what a speaker is going to talk about, find out before you send the agenda to us. It is impossible for us to assign credits or for you to keep the speaker on track if neither of us knows what is going to be covered.

- Failing to call back in a timely manner when we request additional information.
- Failing to list break and lunch times on the agenda.
- Submitting paperwork less than three weeks before the start of the course.
- Failing to notify WSDA of changes to the accredited agenda.
- Allowing a speaker to stray from accredited topic; sponsors must keep speakers on track.
- Not being prepared with an alternate presentation, if a speaker doesn't show up or ends a presentation early.
- Failing to maintain control of the course sign-up rosters. This can result in licensees signing up for classes they did not attend, or others signing rosters in their place. This constitutes fraud. And allowing it to occur may affect your ability to sponsor future courses and even result in licensees losing credits.

Sponsoring a recertification program can be easy as 1-2-3 or it can be a nightmare. The good news is that help is only a few clicks or a phone call away. To learn how to sponsor a course, go to ***agr.wa.gov/PestFert/LicensingEd/Recertification.htm#SponsoringACourse*** *or contact Irene Beckman toll-free at 1-877-301-4555 or directly at (360) 902-2023.*

Statewide toll-free phone number: 1-877-301-4555
On the web at agr.wa.gov

OREGON Department of Agriculture (503) 986-4635 ■ IDAHO Department of Agriculture (208) 332-8500

OLYMPIA OFFICES — **PO Box 42560, 1111 Washington ST SE, Olympia, WA 98504-2560** — **fax (360) 902-2093**

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PROGRAM DEVELOPMENT

Maryann Connell, Ann Wick
Kirk Cook (Ground Water Quality)

Pesticide Disposal Program ..... **phone: (360) 902-2056 / e-mail: wastepesticide@agr.wa.gov**

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SPOKANE BRANCH — **222 N. Havana, Suite 203, Spokane, WA 99202-4776** — **fax (509) 533-2621** — **e-mail: tschultz@agr.wa.gov**

Tim Schultz, Scott Nielsen, Jeff Zeller (Pesticide Compliance)
Brent Perry (Feed & Fertilizer Compliance)

MOSES LAKE BRANCH — **821 E. Broadway Ave, Suite 4, Moses Lake, WA 98837** — **fax (509) 766-2576** — **e-mail: tschultz@agr.wa.gov**

Byron Fitch (Pesticide Compliance/Chemigation)
Tom Hoffmann (Chemigation/Fertigation Technical Assistance Program)

Check web site for collection sites to dispose of pesticides

BEFORE

AFTER

The WSDA Waste Pesticide Identification and Disposal Program collects unusable agricultural and commercial grade pesticides from residents, farmers, business owners and public agencies free of charge. Since the program began in 1988, it has collected and disposed of 1.6 million pounds of unusable pesticides from over 5,000 customers. That's about 322 pounds of product per customer.

Pesticide collections will take place in the fall at various locations around the state. Look for the latest schedule on the department's web site later this summer at **agr.wa.gov/PestFert/Pesticides/WastePesticide.htm**. Although the program is unable to accept household hazardous wastes and fertilizers, most counties have a household hazardous waste program for the proper disposal of such items as paint, motor oil, antifreeze, solvents, and fertilizers. To find out more about local household hazardous waste disposal, contact your local solid waste program or call **1-800-CLEANUP**. You may also visit the Earth 911 web site at **www.earth911.org**.

Plastic pesticide container recycling also available

In addition to the department's Waste Pesticide Identification and Disposal Program, the Washington Pest Consultants Association sponsors a statewide, empty plastic pesticide container recycling program. A schedule is posted at **www.nwagplastics.com**. For more information, call (509) 965-6809 or (509) 457-3850.

The Agricultural Container Recycling Council (ACRC) sponsors a national pesticide container recycling program and is an excellent source for container recycling information (**www.acrecycle.org**). The Washington State Department of Ecology's Hazardous Waste and Toxics Reduction Program (**www.ecy.wa.gov/programs/hwtr**) provides information on reducing and preventing hazardous waste.

Change of Address?

Please notify us of any change to your mailing address to ensure you receive future information affecting your pesticide license. Make any changes to the mailing label below and return to WSDA.

WSDA WASHINGTON STATE DEPARTMENT OF AGRICULTURE

Pesticide Management Division
PO BOX 42589
OLYMPIA WA 98504-2589

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